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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,510	06/12/2000	Robert Gelinas	07030.0017-00	3586

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EXAMINER

KIM, KENNETH S

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 07/17/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,510

Applicant(s)

GELINAS ET AL.

Examiner

Kenneth S KIM

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 4-11 and 26 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-24 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

KENNETH S. KIM
PRIMARY EXAMINER

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 1-26 are presented for examination.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-3 and 12-25, drawn to an apparatus for sending data transfer command with thread identifier, classified in class 712, subclass 225.
 - II. Claims 4-11 and 26, drawn to an apparatus for context switching with separate register files, classified in class 712, subclass 228.
3. The inventions are distinct, each from the other because of the following reasons: Inventions *group I and group II* are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the invention of *group I can be used in a system without the separate register files*. The subcombination has separate utility such as *use in a system without the data transfer command communicated with the thread identifier*.
4. Because these inventions are distinct for the reasons given above and have acquired a *separate status in the art as shown by their different classification and the search required for one group is not required for the other group*, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with *Mr. John F. Hayden on July 9, 2003* a provisional election was made without traverse to prosecute the invention of group I, *claims 1-3 and 12-25*. Affirmation of this election must be made by applicant in replying to this Office action. *Claims 4-11 and 26* are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
6. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).
7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. The abstract of the disclosure is objected to because the current abstract does not reflect the inventive feature of the claimed invention. See MPEP § 608.01(b).

All amended abstracts are to be submitted on a **separate sheet** (without the brackets and underlines).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. Claims 1-3 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Wingard et al, U.S. Patent No. 6,182,183.

Wingard et al teaches the invention as claimed in claim 1 including a processing system comprising:

- (a) a processor (cpu; col. 5, line 10) configured to formulate an instruction and data for sending to a device, said instruction requesting the device to perform a command and return data to the processor (col. 6, line 8),
- (b) a bus controller (120, col. 4, lines 60 and 64) configured to generate a system bus operation to send the formulated instruction and data along with a thread identifier to the device (col. 5, line 22; col. 6, line 56; col. 7, lines 25 and 44),
- (c) wherein the device is a table look up unit (the target can be any type of a memory device including a TLB, col. 5, line 9) – claim 2, and
- (d) wherein the bus controller is further configured to receive the device return data from a system bus along with the thread identifier (col. 13, line 59) – claim 3.

The method claim 25 with descriptor forming and system bus address constructing (col. 6, lines 6-14) is equivalently rejected based on the same reason.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fortland et al taught a method of thread context switching.

Kalafatis et al taught a method of thread switching upon memory access with returned data identified with thread identifier..

Parady taught a method of thread switch on load or store.

Bucher taught a method of controlling multithread operations issued by initiator to target.

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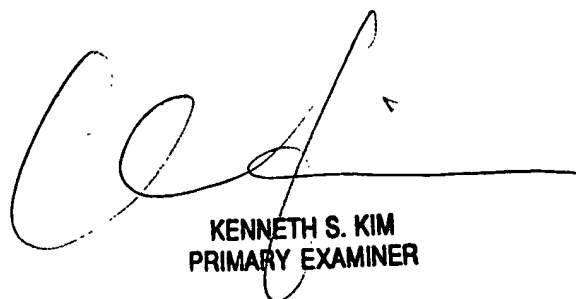
12. Claims 12-24 are allowed for the references do not teach a bus controller generating a bus operation to send a thread identifier along with a data request formulated in one thread by a processor context switching to a second thread.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (703) 305-9693. The examiner can normally be reached on M-F (8:30-17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

July 11, 2003



KENNETH S. KIM
PRIMARY EXAMINER